Solar America Initiative
Technology Acceptance Technical Exchange Meeting
Washington, DC
June 12, 2006

Overview Report-Out of Breakout Sessions
(Plenary)

Infrastructure Development Breakout Group A: Codes, Regulations, and Standards (Ward Bower)

- There is a lack of uniformity across states and municipalities.
- There is not enough Federal guidance for setting codes.
- Components-based standards and codes vs. systems-based: There is a call for systems-based (we have components-based), but also how do you address custom-designed systems?
- How can we get industry and utility involved in the standard-setting process?
- The timeline for process of setting standards is often too long for rapid industry growth—the group had no answers but identified this issue.
- What new codes are needed? Are there communications issues with existing codes?
- The Solar America Initiative could provide a means to disseminate info to states and municipalities with regards to codes and standards. Would be a strong vehicle for disseminating the standard codes.
- The Department of Energy should highlight best practices for codes. Looking for credibility to give standards codes to customers so that they will be comfortable with the technology and utilities are comfortable.
- As MW installations increase, power flow codes become an issue. The Solar America Initiative should look at this in the future. We will need to work with utilities to ensure stable electric networks.
- There is a need for data acquisition avenues.
- How can the Solar America Initiative best accelerate adoption of uniform codes and standards?
    - Give consumers the opportunity to participate in the process.
    - Give consumers models.
    - Give consumers best practices.
    - This would give better credibility.
    - Integrate with international standards and codes (International Electrotechnical Commission, Japan, etc.).
    - Should view codes and standards in relation to how they can impact the solar market→ they will eventually be a reason for safer, better-performing systems.
    - Emphasize information dissemination.
    - Focus on codes and standards with the most leverage.
- What level of funding is needed?

    - Up to 10% increase in budget was proposed.
- There is a need to work with communications experts who can get the message and information out.
- There is a need to better integrate with other offices within the Department of Energy and other organizations for a more coordinated effort.

Infrastructure Development Breakout Group B, Part 1: Training Installers and Code Officials (Bob Hassett)

- The group had only three non-Department of Energy/national laboratory participants, but high value discussion (NABCEP, Chicago Solar Partnership).
- It is important to change perceptions about training and certification. Solar works and there are not negative issues.
- It is important to change the perceptions of end-users (requires third-party verification of who to use to install, etc.).
- Some feel that training and certification is an undue burden and it is not necessary to go through this, but this goes back to third-party verification for consumer confidence, quality, and uniformity.
- There is the issue that voluntary certification programs end up becoming mandatory.
- Regarding start-up issues, there are long timelines associated with training and certification, with building up manufacturing capacities to meet demand. So how do you deal with these timelines, certification issues? There needs to be balance between the market and the workforce. There needs to be an interactive link between them, and how do you do that? Do you create a large workforce first and wait for market demand? Market push or pull approach.
- There is the issue of trade unions and independents. We have been working with the North American Board of Certified Energy Practitioners, but trade unions or workers that might happen in future. There is concern of locking out independents. What about competing trade unions—today it is electrical workers, but what will be next?
- Market size and uncertainties: is this real or fictitious?
- There needs to be a definite link between infrastructure development and market acceptance/expansion. The two parts of this initiative need to be linked and properly coordinated and phased.

Infrastructure Development Breakout Group B, Part 2: National Certification of Training Institutions (Gary Nakarado)

- North American Board of Certified Energy Practitioners certifies PV installers—this is a strong base from which to start.
- We also have great start in accreditation from the Interstate Renewable Energy Council's Institute of Sustainable Power that accredits training programs and certifies trainers.
- The most important thing the Department of Energy could do with respect to training and certification is to create a real genuine sense that there's a real market (jobs) that will expand over time.

- We need to build on the strong start that orgs like North American Board of Certified Energy Practitioners are working out.

Infrastructure Development Breakout Group C, Part 1: National PV Rating Systems (Glenn Strahs)

- Currently there is no rating system for PV components, modules, or systems.
- Look at others for lessons learned:
    - Energy Star.
    - California Energy Commission.
    - The Federal Trade Commission might get involved to allay claims issues/customer satisfaction.
    - The International Energy Association is involved in a variety of different standards abroad.
    - The Solar Rating and Certification Corporation) has standards for solar water heating
    - Underwriters Laboratories does safety for PV.
    - The Solar America Initiative would need coordinated approach.
- Should rating be mandatory or voluntary?
- Other attributes to consider for a rating system:
    - Longevity
    - Emissions offsets

Infrastructure Development Breakout Group C, Part 2: System Finance and Insurance (Tom Kimbis)

- State of the market today for finance: One of issues why we don't see a lot of energy-efficient mortgages today is that cost of money/loans is so cheap—it is easy for people to get credit and easy for folks to borrow. The attractiveness of an energy-efficient mortgage is not so high because mortgage rates are so low.
- Work with Freddie Mac and Fannie Mae to develop energy portfolios that would consist of bundled mortgages, bundled instruments that could receive some sort of credit.
- Standardization of rating system has a real impact on financial systems. A rating system is considered a very high priority; it needs to come first before financing can really kick in.
- Loan guarantees for solar—the Department of Energy should look into this in later years of the Solar America Initiative.
- Insurance—make a concerted effort to allay cost and risk concerns of insurers with better data so that they can make better cost calculations.

Market Expansion Breakout Group A (Cecile Warner)

- The biggest market area of interest was the buildings sector.
- Opportunities include:
    - Rapidly increasing utility rates.
    - Increasing construction rates.
- Sectors within the building sector:

    - Residential new construction
    - Retrofit residential
    - Commercial
    - Healthcare / Veterans Administration
- Highest priority on national interconnection standards.
- Regulators and builders need to be part of the team bidding on the solicitation.
- How do we determine markets for the Solar America Initiative—looking at big, up and coming markets would be more interesting. Look for opportunities that haven't already being exploited.
- Solar America City designation—piggyback efforts of other organizations. (e.g. Sierra Club's Cool Cities campaign).
- There was big interest in a multi-year effort: 3 – 5, maybe even 7 years.
- There should be PV value to communities beyond kWh produced.
- Cost share.
- Use the lessons learned from Million Solar Roofs.
- Long-term web presence for information on Funding Opportunity Announcement results.
- Niche market: energy security—this goes back to buildings sector.
- Not a lot of support for targeting building-integrated PV separately, but for being more inclusive.

Market Expansion Breakout Group B (Charlie Hemmeline)

- There was a lot of discussion about niche applications—niche in terms of wastewater treatment plants and the enormous amount of energy they use and their need for power. Focus on the big things.
- There was an idea for a clearinghouse of decisionable information (e.g. PVWatts and the Database of State Incentives for Renewable Energy (DSIRE) as high value), specifically for frameworks for analyzing the many benefits of PV so that consumers can see the full picture.
- There is value in networking among the different players peer-to-peer using trade associations—the Department of Energy should do this, do it more, and do it smarter.
- Technical assistance: there was a preference that this be a top-down effort. The Department of Energy should find decision-makers that can make replicable projects. Major decisions will flow from the top. (e.g. don't partner with a local group to do solar-powered streetlights; partner with the National Conference of Mayors and make sure that information gets disseminated to local groups).